New Orleans TV Station Designs For Worst-Case Scenario

Full Mitigation Best Practice Story

Jefferson Parish, Louisiana

Gretna, LA – WWL-TV is a dominant force in the southeast Louisiana area broadcasting industry and is the recipient of several prestigious awards. During Hurricane Katrina, they overcame tremendous challenges and enhanced their reputation by broadcasting continuously and providing communities with ongoing disaster news coverage. No other New Orleans TV station was able to provide non-stop reporting during the hurricane and its aftermath.

The WWL-TV transmitting facility and the adjacent TV tower are located on Cooper Road in Gretna, Louisiana, on the West Bank. Approximately five years ago, Rick Barber, Director of Technology at WWL-TV, owned by Belo Corporation, consulted the Army Corps of Engineers for advice on incorporating protection from potentially catastrophic storm surges into the design of their new transmitter facility and tower. The station took that advice and hired a structural engineering firm known for its ability to design on Louisiana soil, which is 67% water.

Projections showed that the worst-case storm surge would be from a hurricane that took a northwesterly track as it headed towards the Mississippi River. Hurricane Katrina began on exactly that path, then veered to the east before reaching land. Despite the late turn, the massive storm surge resulted in a disastrous aftermath.

Katrina tested the hurricane-resistant building with winds of more than 120 mph. The design proved its worth as the 4,400 square foot, windowless building and tower went unscathed. Ron Rentfrow, the owner of Broadcast Construction Service, the company that built the facility, says the station was built 16 feet above the ground (higher than local code requirements) with an additional 18-inch space to run cables and drain any collection of storm water. The emergency generator and a 10,000 gallon fuel reserve tank also were elevated, and the structure was built with cast-in-place steel reinforced concrete set on 80-foot deep pilings. The pre-cast, eight-inch thick, steel-reinforced concrete walls with metal connectors were trucked in from Mississippi and welded together. Mr. Rentfrow states that “The building was as strong as you could practically build.”

The 1,000-foot tower adjacent to the transmitter site was built to withstand 180 mph winds. Even though the property is actually outside of a Special Flood Hazard Area (SFHA), the parish requires all structures to be engineered as if located within an SFHA. As Mr. Rentfrow explains, “If a similar tower were built elsewhere, it would not be nearly as robust as this one.” The dimensions of the cross members and guy wires were larger than local building code requirements. Two staff members stayed in the secure building during the storm and indicated that the only way they could tell there was a hurricane was to walk outside. In order to ensure the efficient operation of its emergency equipment, the station runs weekly testing of the generator and its system under emergency conditions.

The station’s headquarters and its TV studio, which houses creative operations, are located several miles away in New Orleans’ French Quarter. The studio’s function is to generate the finished video product and send a low-level signal to the transmitter site, where it is amplified and transmitted from the top of the tower. During the mandatory evacuation preceding Katrina, the studio staff set up a temporary base of operations in Baton Rouge and sent its signal to the transmitter via two satellite links. Mr. Rentfrow described the French Quarter facility as an old building and explains, “We had begun to design a new studio nearby. When Katrina hit, our corporate partners stopped the process and re-evaluated. I won’t be surprised to see elevation and other hurricane resistant measures incorporated into the new studio because this catastrophic event will happen again.”

Photo Caption 1: Transmitter facility and tower for WWL-TV. Photo Caption 2: Transmitter station and TV tower. Photos courtesy of Rick Barber, Director of Technology at WWL-TV.

Activity/Project Location

Geographical Area:	**Single County in a State**
FEMA Region:	**Region VI**
State:	**Louisiana**
County:	**Jefferson Parish**
City/Community:	**Gretna**

Key Activity/Project Information

Sector:	**Private**
Hazard Type:	**Hurricane/Tropical Storm**
Activity/Project Type:	**Building Codes; Elevation, Structural**
Structure Type:	**Concrete, Reinforced; Tilt-up (Concrete Pre-cast)**
Activity/Project Start Date:	**01/2001**
Activity/Project End Date:	**Ongoing**
Funding Source:	**Business Owner; Private funds**
Funding Recipient:	**Business/Industry**

Activity/Project Economic Analysis

Cost:	**Amount Not Available**

Activity/Project Disaster Information

Mitigation Resulted From Federal Disaster?	**No**
Value Tested By Disaster?	**Yes**
Tested By Federal Disaster #:	**No Federal Disaster specified**
Year First Tested:	**2005**
Repetitive Loss Property?	**No**

Reference URLs

Reference URL 1:	**http://www.fema.gov/plan/prevent/bestpractices/index.shtm**
Reference URL 2:	**http://www.loep.state.la.us/**

Main Points

- Through innovative building design, the TV tower broadcast without interruption during Hurricane Katrina.
- The TV station was constructed to exceed the Base Flood Elevation requirements of the community.
- Weekly testing of the emergency equipment ensures smooth operation during emergency conditions.

WWL-TV transmitter facility and tower.

WWL-TV transmitter station and tower.

Aerial view of TV tower.